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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/769,115	01/30/2004	Young Hoon Kwark	YOR920030625US1 (163-27)	7189

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EXAMINER	
CHAN, EMILY Y	

ART UNIT	PAPER NUMBER
2829	

DATE MAILED: 10/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/769,115	KWARK, YOUNG HOON	
	Examiner	Art Unit	
	Emily Y. Chan	2829	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 August 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19 and 29* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16 and 18* is/are rejected.

7)☒ Claim(s) *17 and 29* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *1/30/24* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. Claims 1-4, 7-12, 15-16 and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moore US Patent No. 6,759,863 in view of Kasapil US Patent No. 6,976,234.

With respect to the claims 1 and 10, Moore ('863) expressly discloses a wireless IC test system (see Figs. 1-7) for measuring circuits (IC 18) on an integrated circuit substrate (wafer 16) during fabrication (see Col. 1, line 9, " during the IC fabrication process") as claimed, comprising:

a measurement circuit (test circuit 14) formed on the integrated circuit substrate (16) which measures at least one characteristic (see claim 2, "parametric test") of an integrated circuit (18),

the measurement circuit (14) comprising a power transfer device (see Fig. 7) including a power transfer component (50,52,54,56 68), which receives energy (RF power signal 32) from a source (30) where the source 30 does not make physical contact with the integrated circuit substrate (16) to transfer power to the measurement circuit (14) (see Col. 6, lines 20-22, "The test unit 12 is separate from the wafer 16 and is coupled wirelessly to any test circuit 14 on the wafer 16") when the source (30) is in alignment with power transfer component (see Col. 7, lines 3-4 " provides the amplified RF power signal 32 to the antenna 30 which radiates the RF power signal 32 towards the test circuit 14");

the measuring circuit (14) including components (see Fig. 7 and Col. 8, lines 43-44, " to send the test result 34 from the test circuit 14 to the test unit 12 ") so that process parameters are measured for the components to provide information about processing steps and to determine actions to remedy problems prior to completion fabrication of integrated circuits on the integrated circuit substrate (see Col. 19, lines 8-20),

a test device (12) including the source (30) which delivers energy to the power transfer component (50,52,54,56 68) of the measurement circuit (14) when alignment with the power transfer component (see Clo. 7, lines 3-4, "the RF power signal 32 towards the test circuit 14").

Moore ('863) does not disclose that his measurement circuit (14) includes components that mirror behavior of the integrated circuit.

Kasapil ('234) disclose an apparatus (see Figs. 1-2) for contactless measuring voltage characteristic of dynamic electrical signals in integrated circuits (102) as claimed comprising a test device (114), a measuring circuit (106). Kasapil ('234) exclusively teaches that his measuring circuit (106) disposed on wafer (103) comprises components that mirror behavior of the integrated circuit (102) (see Col. 2, lines 49-56 and Abstract).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to incorporate the components for mirroring the integrated circuit as taught by Kasapil ('234) into Moore ('863)'s measuring circuit for the expected benefit of performing measurements of voltage characteristics of dynamic

electrical signal in integrated circuits as disclosed by Kasapil ('234) (see Col. 1, lines 9-13).

With respect to the claim 2, Moore ('863) discloses that the integrated circuit substrate includes a chip (18) formed on a semiconductor wafer (16) (see Fig. 2).

With respect to the claims 3 and 11, Moore ('863) discloses that his measurement circuit (14) is formed in a kerf area of the chip (18) (see fig. 5).

With respect to claims 4 and 12, Moore ('863) discloses that the source (30) transfers energy via inductive coupling (see Col. 7, lines 56-65).

With respect to claims 7 and 15, Moore ('863) discloses capacitive coupling (see claim 18).

With respect to claims 8 and 16, Moore ('863) discloses that his measuring circuit (14) includes a control circuit (see Fig. 7, 62,66,68) which conveys measuring information (see Col. 20, lines 41-42).

With respect to claims 9 and 19, Kasapil ('234) discloses at least one characteristic including a circuit parameter or response (105) (see Col. 4, lines 34-35).

With respect to claim 18, Kasapil ('234)'s test device (114) can include a probe ring.

2. Claims 5 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moore ('863) in view of Kasapil ('234) as applied to claims 1 and 10 above, and further in view of Hirt US Patent No. 6,686,760.

Moore ('863) in view of Kasapil ('234) does not disclose that the power transfer device (6) includes a photo sensor and the source (30) transfers energy via light.

Hirt ('760) discloses a photosensor for testing an integrated circuit (see Fig. 2) and exclusively teach that a power transfer device includes photo sensor (see Fig. 2) and the source (see Fig. 9, 306) transfers energy via light (see Col. 5, lines 46-47).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to incorporate the teaching of transferring energy via light as taught by Hirt ('760) into Moore ('863) in view of Kasapil ('234)'s system for the expected benefit of providing a system for contactless testing which allows for fast and reliable testing as disclosed by Hirt ('760) (see Col. 2, lines 4-5).

3. Claims 6 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moore ('863) in view of Kasapil ('234) and Hirt ('760) as applied to claims 1, 5, 10 and 13 above, and further in view of Cook et al US Publication No. 2002/0047722.

Moore ('863) in view of Kasapil ('234) and Hirt ('760) do not disclose that the photo sensor includes a photodiode and that the source includes a laser.

Cook et al ('722) disclose a contact-less probe of semiconductor wafers (see Figs 1 and 5) and exclusively teach a power transfer component includes photodiode (10) and a source (14) includes a laser (see page 3, paragraph (0046), line 6 " optical power source, such as a laser").

Therefore, it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to incorporate the teaching of photodiedo and laser as taught by Cook et al ('722) into Moore ('863) in view of Kasapil ('234) and Hirt ('760) 's system for the expected benefit of providing a testing devices which do not

contact the device under test (DUT) as disclosed by Cook et al ('722) (see page 1, paragraph (0002)).

Allowable Subject Matter

4. Claims 17 and 29 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Claims 17 and 19 are indicated allowable because the examiner found out that the argument for claim 17 filed on 8/18/06 is persuasive. During further search the examiner found out that the prior art in the record does not teach or suggest a test circuit for contactless measurement includes a thin film dielectric membrane having a source mounted thereon. Claim 19 is dependent on claim 17 and is indicated allowable accordingly.

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Slupsky US Patent No. 6,885,202 discloses a non-contact tester for electronic circuits (see Figs. 1-5).

Pileggi et al US Publication No. 2005/0138499 disclose a system to test integrated circuits on a wafer.

Response to Arguments

Applicant's arguments with respect to claim 1-19 and 29 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emily Y. Chan whose telephone number is 571-272-1956. The examiner can normally be reached on 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ha T Nguyen can be reached on 571-272-1678. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

EC
10/1/06

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